Exploring the Incidence of Unplanned Perioperative Hypothermia (UPH) in the Ambulatory Surgical Population

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Problem

- Unplanned perioperative hypothermia (UPH) (core temperature < 36^{o} C) may occur in 20% to 40% of inpatient surgeries
- Associated with numerous adverse outcomes, including a 68% increase in the incidence of surgical site infection (SSI)
- Outpatient surgeries account for 75% of all procedures
- Incidence of UPH in the ambulatory surgical population has not been elucidated

Purpose

- The purpose of this study was to describe the incidence of UPH in the ambulatory surgery population in a large regional-referral healthcare setting
- Specific Aims:
  - Determine the incidence of UPH in the ambulatory surgical population
  - Determine the relationship of preoperative and intraoperative warming interventions to the development of UPH in the ambulatory surgical population

Methodology

- Retrospective exploratory design using electronic medical record abstraction
- Sample
  - Purposeful convenience sample of all adult ambulatory surgical procedures over a 1 year period
- Independent variables
  - Risk factors & confounding variables associated with the development of UPH
- Dependent variables
  - Postoperative patient temperature and incidence of UPH

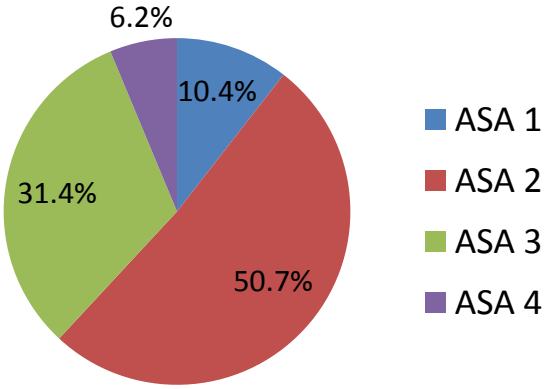
Results: Sample Demographics

- N = 6521 charts
- Mean age: 53.9 (± 16.7)
- Gender
  - 39.2% male
  - 60.8% female
- Ethnicity
  - 86.6 % white
  - 4.0 % black
  - 1.0% Latino
  - 8.3 % other/unspecified

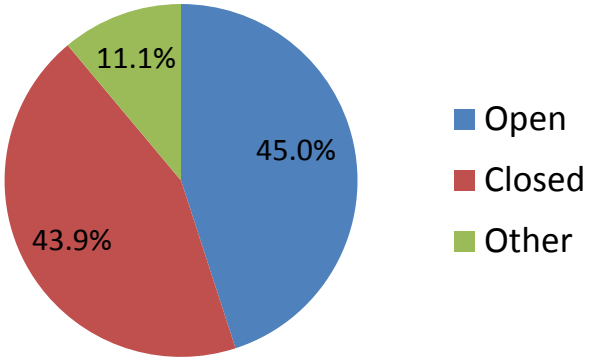
Results: Procedure/Patient

- Mean BMI: 29.0 (± 7.1)
- Mean OR time: 74.8 min (± 32.9)
- Mean surgical time: 45.1 min (± 28.9)

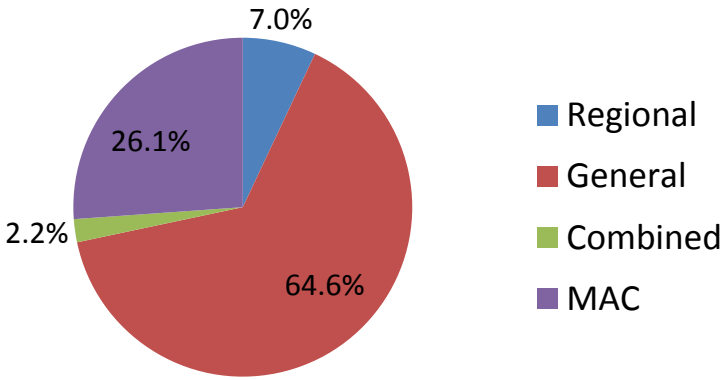
Results



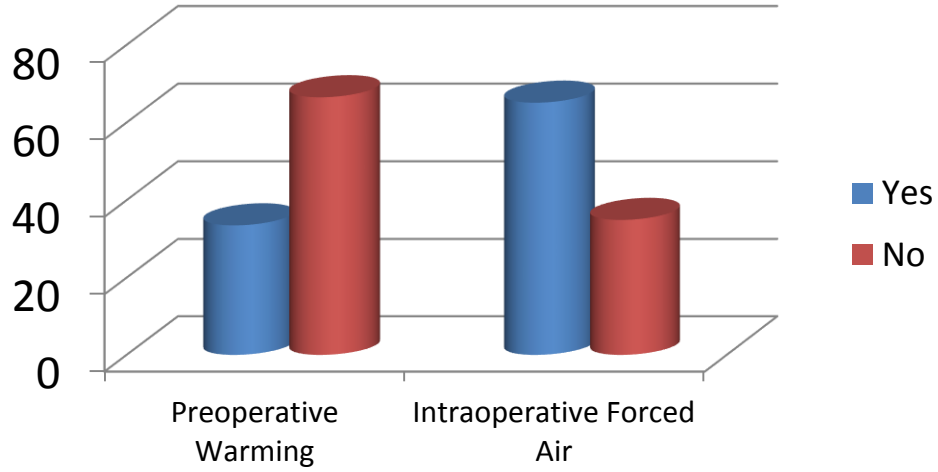
ASA Class



Type Procedure



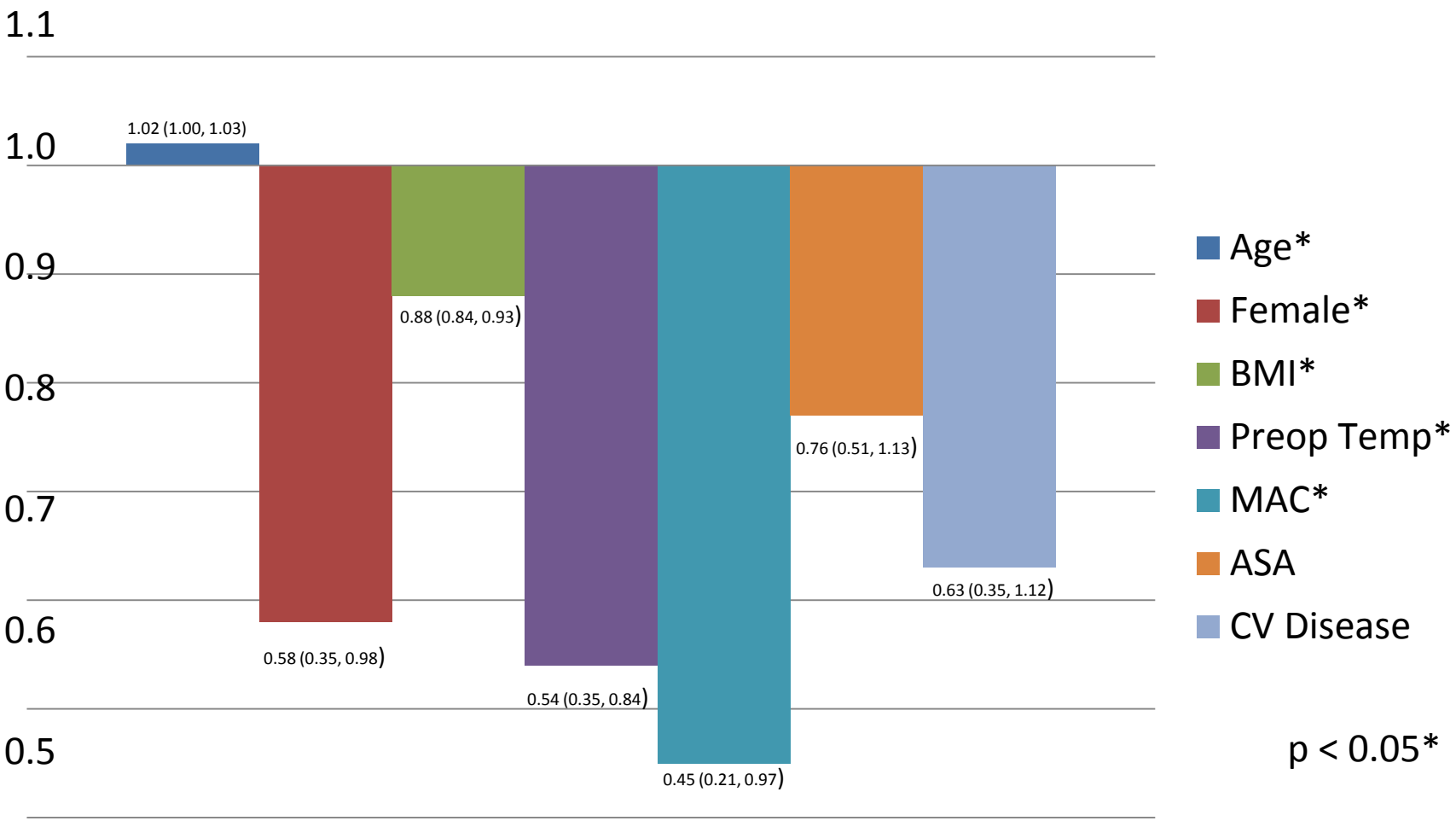
Anesthesia Type



Outcome Measures

- Mean temperatures
  - Preoperative: 98.1^{o} F ($\pm$ 0.5)
  - First postop: 97.9^{o} F ($\pm$ 0.6)
- Incidence of UPH: 1.0%
- Confounding variables examined: Preop temp, procedure type, anesthesia type, OR & surgery time, warming measures, co-morbidities (arterial & cardiovascular disease, diabetes, coagulopathies)

Odds of Developing UPH



$p < 0.05$*

Discussion

- Incidence of UPH in the ambulatory surgical population is much lower than previously reported for inpatient surgeries
- Previous risk factors of increased age & lower BMI supported
- Female gender shown to be protective
- Higher preoperative temperature shown to be protective
  - Supportive of preoperative warming

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Questions